



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: CF34-8C1 BYPASS RATIO: 5.1  
 UNIQUE ID NUMBER: 5GE083 PRESSURE RATIO ( $\pi_{00}$ ): 23.0  
 COMBUSTOR: ENGINE TYPE: TF RATED THRUST ( $F_{00}$ ) (kN): 56.4

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	0.3	63.0	43.1	6.9
AS % OF ORIGINAL LIMIT	1.5	53.4	50.1	24.9
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			62.6	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			68.7	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			72.5	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			80.6	

### DATA STATUS

- PRE-REGULATION  
 x CERTIFICATION  
 - REVISED (SEE REMARKS)

### TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
 - DEDICATED ENGINES TO PRODUCTION STANDARD  
 - OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 x OUT OF PRODUCTION (DATE: - )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	0.604	0.02	0.41	14.67	5.3
CLIMB OUT	85	2.2	0.494	0.02	0.50	12.82	1.5
APPROACH	30	4.0	0.168	0.06	2.91	11.10	0.0
IDLE	7	26.0	0.069	0.08	24.92	4.31	0.0
LTO TOTAL FUEL (kg) or EMISSIONS (g)			239	13	2845	2120	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				0.2	51.3	37.2	5.3
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				0.0	1.0	0.7	1.0
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				0.2	50.1-52	36.6-38	4.6-6.5

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	96.9-97.6
TEMPERATURE (K)	287-296.4
ABS HUMIDITY (kg/kg)	0.0056-0.00656

### FUEL

SPEC	Jet A
H/C	1.93
AROM (%)	16.87

MANUFACTURER: General Electric Company  
 TEST ORGANIZATION: Peebles Test Operation  
 TEST LOCATION: Peebles, Ohio  
 TEST DATES: 24/09/1999

### NO<sub>x</sub> REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
	2.3.2 d) (CAEP/6)
x	2.3.2 e) (CAEP/8)

### REMARKS

1. Ref. GE Report R99AEB031.
2. Engine S/S 965202.
3. Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
4. NO<sub>x</sub> levels in accordance with Part III, Chapter 2, 2.3.2 e)

Compliance with Fuel Venting requirements: -

('x' if complies, 'PR' if pre-regulation, '-' if information is not available)